

-- command 2, wait command - give some time for the other thread
40 -- to go pending on this thread
2 => (operation => cWAIT_AFTER_PREV_CPEI_CMD_DONE, --"001011"
order_id => "XX",
sem_num => "XX",
sem_val => "1111000011100001111000011110000",
dir_flag => '1',
MSB_4addressbits => "1111",
append => false, -- valid only with enable command
queue_number => "01"), -- valid only with enable command

-- command 3, wait command
41 3 => (operation => "000101",
order_id => "XX",
sem_num => "XX",
sem_val => "1111000011100001111000011110000",
dir_flag => '1',
MSB_4addressbits => "1111",
append => false, -- valid only with enable command
queue_number => "01"), -- valid only with enable command

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Fig.3

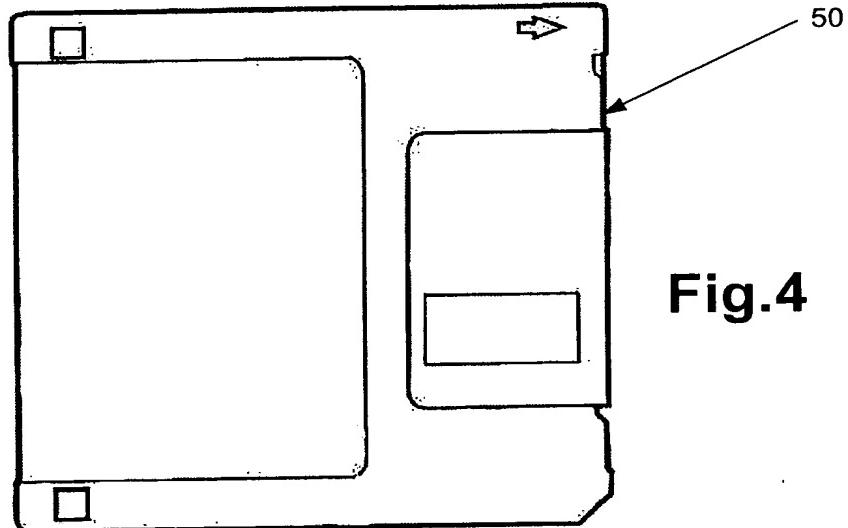
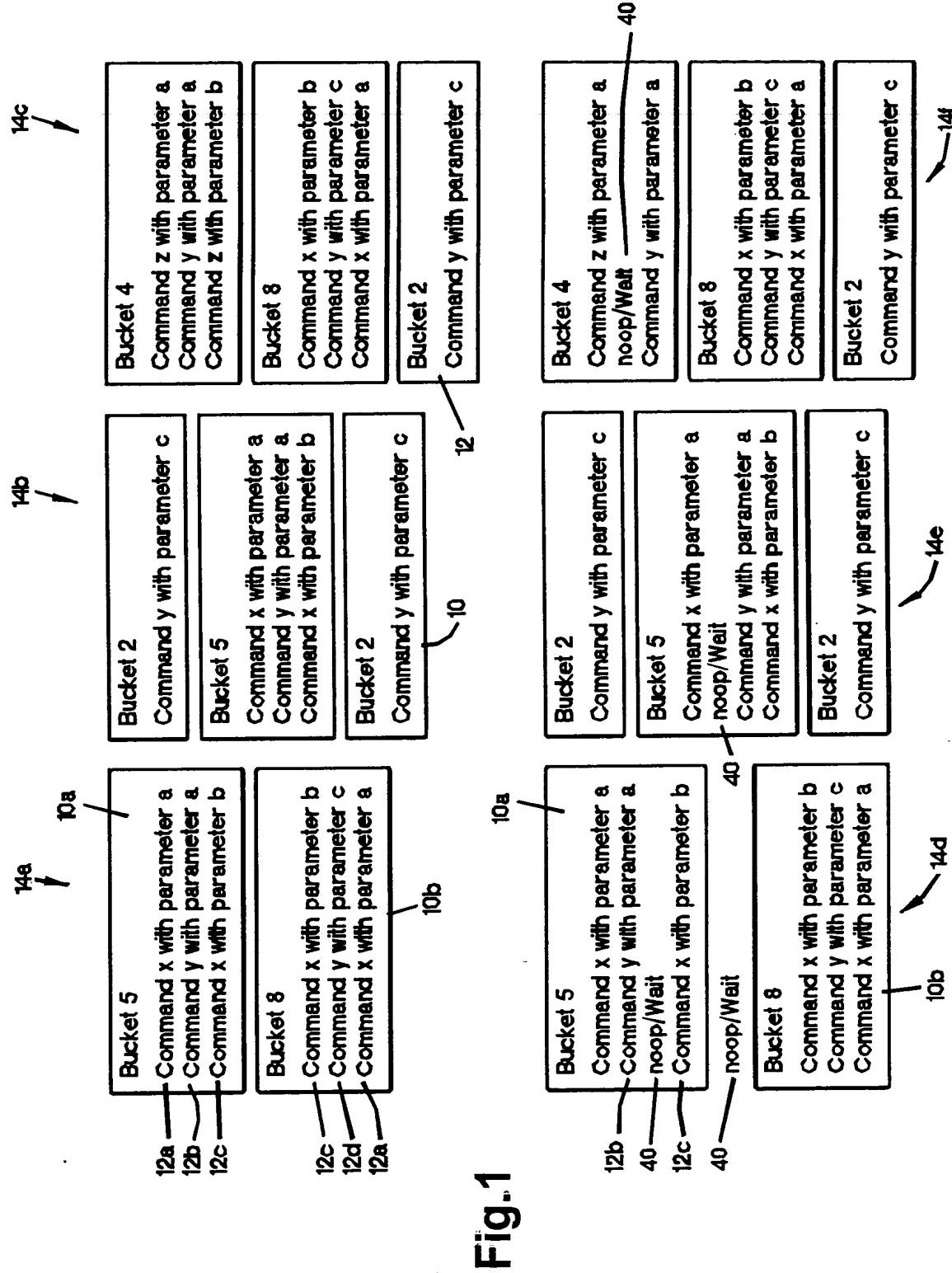


Fig.4



```

library ieee;
use ieee.std_logic_1164.all;
library sem_man_lib;
use sem_man_lib.sem_rec_pkg.all;
package bucket_8a_p is
constant cbucket_8a : bucket_T :=
(size_of_bucket => 5,
 commands_array =>
-- command 0, enable queue 0 and 1
(0 => (operation => "000011", -- enable thread command
order_id => "11",
sem_num => "XX",
sem_val => (others => 'X'),
dir_flag => 'X',
MSB_4addressbits => (others => 'X'),
append => true, -- valid only with enable command
queue_number => "11"), -- valid only with enable command
-- should have the same value as order_id
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-- command 1, ordered lock, queue 0, sem 0, direct mode
1 => (operation => "000000",
order_id => "01",
sem_num => "00",
sem_val => "0000111000011110000111100001111",
dir_flag => '1',
MSB_4addressbits => "0001",
append => false, -- valid only with enable command
queue_number => "01"), -- valid only with enable command
-- command 2, reservation release, queue 1, direct
2 => (operation => "000010",
order_id => "10",
sem_num => "01", -- don't care for reservation release
sem_val => "11110000111100001111000011110000",
dir_flag => '1',
MSB_4addressbits => "1111",
append => false, -- valid only with enable command
queue_number => "01"), -- valid only with enable command
-- command 3, unlock - sem 0, direct
3 => (operation => "000001",
order_id => "XX",
sem_num => "01",
sem_val => (others => 'X'),
dir_flag => '1',
MSB_4addressbits => "0001",
append => false, -- valid only with enable command
queue_number => "01"), -- valid only with enable command
-- command 4, enqueue
4 => (operation => "000100",
order_id => "XX",
sem_num => "XX",
sem_val => (others => 'X'),
dir_flag => 'X',
MSB_4addressbits => "0001",
append => false, -- valid only with enable command
queue_number => "01"), -- valid only with enable command
others => cCommand_others_x
)
);
end bucket_8a_p;

```

Fig.2

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